

AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated:

1. (Previously Presented) Process for combusting a liquid Fischer-Tropsch derived hydrocarbon fuel, the process comprising:
 - (a) obtaining a droplet mixture comprising droplets of the liquid Fischer-Tropsch derived hydrocarbon fuel in an oxygen containing gaseous phase;
 - (b) subjecting the droplet mixture to a cool flame under evaporation conditions effective to produce an evaporated gaseous mixture comprising oxygen and hydrocarbons, the cool flame having a temperature of between 300 °C and 480 °C when the pressure is 1 bar, and
 - (c) combusting the evaporated gaseous mixture under combustion conditions effective to produce a heat of combustion.
2. (Previously Presented) The process of claim 1, wherein (a) comprises: atomizing the liquid Fischer-Tropsch derived hydrocarbon fuel to produce atomized fuel; and, mixing the atomized fuel with air.
3. (Canceled)
4. (Previously Presented) The process of claim 1, wherein the combustion conditions comprise combustion in a porous material.
5. (Previously Presented) The process of claim 4, further comprising:
 - (d) producing steam from the heat of combustion;
 - (e) super heating the steam; and,
 - (f) powering a piston or expansion engine with the superheated steam.
6. (Previously Presented) The process of claim 1, wherein the combustion conditions comprise combustion at a porous surface to produce radiant heat.

7. (Currently Amended) The process of claim 6, further comprising heating space with the radiant heat.

8. (Previously Presented) The process of claim 1, further comprising aerodynamically stabilizing the flame.

9. (Previously Presented) The process of claim 1, wherein the liquid Fischer-Tropsch derived hydrocarbon fuel comprises a Fischer-Tropsch product comprising more than 80 wt% iso and normal paraffins.

10. (Previously Presented) The process of claim 9, wherein the liquid Fischer-Tropsch derived hydrocarbon fuel comprises more than 80 wt% of the Fischer-Tropsch product.

11. (Currently Amended) The process of claim 1, wherein the ~~combustion conditions~~ fuel and gaseous mixture do not comprise a metal based combustion improver and wherein the ~~combustion conditions~~ comprise the presence of a flame detector of the ionization sensor type.

12. (Previously Presented) The process of claim 1 further comprising:

(d) performing one or more procedure selected from the group consisting of heating water by indirect heat exchange of the heat of combustion in one or more boiler and heating space directly with the heat of combustion.

13. (Previously Presented) The process of claim 1 wherein the liquid Fischer-Tropsch derived hydrocarbon fuel comprises one or more fraction of the middle distillate fuel range.

14. (Previously Presented) The process of claim 13 wherein larger than 90 wt% of the liquid Fischer-Tropsch derived hydrocarbon fuel boils between 160 °C and 400 °C.

15. (Previously Presented) A process for combusting a liquid Fischer-Tropsch derived hydrocarbon fuel, the process comprising:

(a) obtaining a droplet mixture comprising droplets of the liquid Fischer-Tropsch derived hydrocarbon fuel in an oxygen containing gaseous phase;

- (b) subjecting the droplet mixture to a cool flame under evaporation conditions effective to produce an evaporated gaseous mixture comprising oxygen and hydrocarbons, the cool flame having a temperature of between 300 °C and 480 °C when the pressure is 1 bar, and
- (c) completely combusting the evaporated gaseous mixture under combustion conditions effective to produce a heat of combustion.

16. (Previously Presented) The process of claim 15 further comprising:

- (d) performing one or more procedure selected from the group consisting of heating water by indirect heat exchange of the heat of combustion in one or more boiler and heating space directly with the heat of combustion.

17. (Previously Presented) The process of claim 15, further comprising:

- (d) producing steam from the heat of combustion;
- (e) super heating the steam; and,
- (f) powering a piston or expansion engine with the superheated steam.

18. (Previously Presented) A process for combusting a liquid Fischer-Tropsch derived hydrocarbon fuel, the process comprising:

- (a) subjecting the liquid Fischer-Tropsch derived hydrocarbon fuel to a cool flame under evaporation conditions effective to produce an evaporated gaseous mixture comprising oxygen and hydrocarbons, the cool flame having a temperature of between 300 °C and 480 °C when the pressure is 1 bar; and,
- (b) combusting the evaporated gaseous mixture under combustion conditions effective to produce a heat of combustion.

19. (Previously Presented) The process of claim 18 wherein

- (a) comprises:
 - (i) subjecting the liquid Fischer-Tropsch derived hydrocarbon fuel to the cool flame, producing an evaporated gaseous fuel; and
 - (ii) mixing the evaporated gaseous fuel and oxygen to form the evaporated gaseous mixture.

20. (Previously Presented) The process of claim 18 wherein the combustsing comprises completely combustsing the evaporated gaseous mixture.

21. (Previously Presented) The process of claim 18 further comprising:

- (c) performing one or more procedure selected from the group consisting of heating water by indirect heat exchange of the heat of combustion in one or more boiler and heating space directly with the heat of combustion.

22. (Previously Presented) The method of claim 20 wherein the procedure comprises heating space directly with the heat of combustion.

23. (Previously Presented) The process of claim 18, wherein the combustion conditions comprise combustion in a porous material.

24. (Previously Presented) The process of claim 23 wherein, in the porous material, the gaseous mixture travels through a preheating zone wherein flame propagation is suppressed and thereafter to a combustion zone wherein flame propagation occurs.

25. (Previously Presented) The process of claim 18, further comprising:

- (d) producing steam from the heat of combustion;
- (e) super heating the steam; and,
- (f) powering a piston or expansion engine with the superheated steam.

26. (Previously Presented) The process of claim 18, wherein the Fischer-Tropsch derived hydrocarbon fuel comprises a

Fischer-Tropsch product comprising more than 80 wt% iso and normal paraffins.

27. (Previously Presented) The process of claim 26, wherein the liquid Fischer-Tropsch derived hydrocarbon fuel comprises more than 80 wt% of the Fischer-Tropsch product.

28. (Previously Presented) The process of claim 18, wherein the ~~combustion conditions~~fuel and gaseous mixture do not comprise a metal based combustion improver and wherein the ~~combustion conditions~~ comprise the presence of a flame detector of the ionization sensor type.

29. (New) The process of claim 1 wherein an ionization sensor type flame detector is present.

30. (New) The process of claim 18 wherein an ionization sensor type flame detector is present.